

AMENDMENTS TO THE CLAIMS

Please amend claims 1 and 12, such that the claims of the application have the following formulations and statuses:

1. (Currently amended), An arc discharge metal halide lamp for use in selected lighting fixtures, said lamp comprising:

a discharge chamber having light permeable walls of a unitary single piece structure that is free of piece part joints therein with resulting thickened portions of said walls and being of a selected shape bounding a discharge region of a selected volume including therein a pair of end region wall portions through each of which a corresponding one of a pair of electrodes are supported to have interior ends thereof positioned in said discharge region so that they are separated from one another along a common axis by a separation length, said walls having portions thereof as wall sides between said end region wall portions with said wall sides having an effective joined inner diameter corresponding to an effective operation inner diameter at an intersection between said walls and said end region wall portions at each end thereof where adjacent to a corresponding said end wall region portion and with said having an effective operation inner diameter over said separation length in directions substantially perpendicular to said separation length such that a ratio of said separation length to said effective operation inner diameter is greater than two and with lengths of said wall sides between said end region wall portions being greater than said effective operation inner diameter, said end region wall portions having inner and outer surfaces so that intersections thereof with planes containing centers of said electrodes said common axis are smooth and have radii of curvature therealong equal to or less than half of that said effective

joined inner diameter and so that they said end region wall portions are separated from said interior ends of said electrodes by more than one millimeter; and ionizable materials provided in said discharge region of said discharge chamber.

2. (Original) The device of claim 1 wherein said discharge chamber is formed of walls comprising polycrystalline alumina.

3. (Original) The device of claim 1 wherein said ratio of said separation length to said effective operation inner diameter is less than five.

4. (Original) The device of claim 1 wherein said ratio of said separation length to said effective operation inner diameter is greater than three but less than five.

5. (Original) The device of claim 1 wherein said ratio of said separation length to said effective operation inner diameter is greater than four but less than five.

6. (Original) The device of claim 1 wherein said ratio of said separation length to said effective operation inner diameter is greater than five.

7. (Original) The device of claim 1 wherein said ionizable materials include metal halides.

8. (Original) The device of claim 7 wherein said ionizable materials include CeI<sub>3</sub>.

9. (Original) The device of claim 7 wherein said ionizable materials include PrI<sub>3</sub>.

10. (Original) The device of claim 8 wherein said ionizable materials further include NaI.

11. (Original) The device of claim 9 wherein said ionizable materials further include NaI.

12. (Currently amended) An arc discharge metal halide lamp for use in selected lighting fixtures, said lamp comprising:

a discharge chamber having light permeable walls of a unitary single piece structure that is free of piece part joints therein with resulting thickened portions of said walls and being of a selected shape bounding a discharge region of a selected volume including therein a pair of hemispherical shape end region wall portions through each of which a corresponding one of a pair of electrodes are supported to have interior ends thereof positioned in said discharge region so that they are separated from one another along a common axis by a separation length, said walls having portions thereof as wall sides between said end region wall portions with an interior surface forming a truncated right cylinder having an inner diameter over said separation length in directions substantially perpendicular to said separation length such that a ratio of said separation length to said inner diameter is greater than two and with lengths of said wall sides between said end region wall portions being greater than said inner diameter, said end region wall portions each having inner surfaces having a radius equal to half of said inner diameter which are separated from said interior ends of said electrodes by more than one millimeter; and

ionizable materials provided in said discharge region of said discharge chamber.

13. (Original) The device of claim 12 wherein said discharge chamber is formed of walls comprising polycrystalline alumina.

14. (Original) The device of claim 12 wherein said ratio of said separation length to said effective operation inner diameter is less than five.

15. (Original) The device of claim 12 wherein said ratio of said separation length to said effective operation inner diameter is greater than three but less than five.

16. (Original) The device of claim 12 wherein said ratio of said separation length to said effective operation inner diameter is greater than four but less than five.

17. (Original) The device of claim 12 wherein said ratio of said separation length to said effective operation inner diameter is greater than five.

18. (Original) The device of claim 12 wherein said ionizable materials include metal halides.

19. (Original) The device of claim 18 wherein said ionizable materials include CeI<sub>3</sub>.

20. (Original) The device of claim 18 wherein said ionizable materials include PrI<sub>3</sub>.

21. (Original) The device of claim 19 wherein said ionizable materials further include NaI.

22. (Original) The device of claim 20 wherein said ionizable materials further include NaI.